

## REMARKS

### Summary of Office Action

As an initial matter, Applicants note with appreciation that the Examiner appears to have withdrawn the rejection under 35 U.S.C. § 103(a) set forth in the previous Office Action.

Claims 14-30 and 32-43, i.e., all claims of record, are newly rejected as allegedly being unpatentable over Korte et al., U.S. Patent 7,582,677 (hereafter “KORTE”), and Eggers et al., WO 03/0070152 (hereafter “EGGERS”), in view of Shibata et al., Planta Med. 57 (1991) pages 221-224 (hereafter “SHIBATA”), and Matsukawa, U.S. Patent 6,214,352 (hereafter “MATSUKAWA”).

### Response to Office Action

Reconsideration and withdrawal of the rejection of record are respectfully requested, in view of the following remarks.

Applicants note that the rejection essentially alleges that KORTE teaches topical formulations for cosmetic and pharmaceutical use that include lignan esters such as matairesinol or arctigenin and that the lignans may be useful as active agents in topical preparations as anti-aging substances for treating signs of dermatological aging and may also be useful as anti-inflammatory agents or as skin cancer preventing agents. The rejection further alleges that EGGERS teaches a new anti-aging agent for cosmetic compositions that contains plant extracts containing arctium. (In this regard, it is noted that the rejection relies on a “translation” of EGGERS which does not appear to have been provided by the Examiner (nor made officially of record)). The rejection concedes that KORTE and EGGERS “do not teach that the 2,3-

dibenzylbutyrolactone derivatives are in combination with licochalcone A". In this regard, the Office relies on SHIBATA which allegedly teaches that licochalcone A has an anti-inflammatory effect in *in vivo* models of mouse-ear edema and papilloma on mouse back skin, and on MATSUKAWA which allegedly teaches cosmetic compositions that include licochalcone A as a whitening agent, and asserts that it would allegedly have been obvious to one of ordinary skill in the art to combine the teachings of SHIBATA and MATSUKAWA with the teachings of EGGERT (and KORTE ?) "because it is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose."

Applicants respectfully traverse this rejection. In particular, contrary to what is alleged in the instant Office Action neither SHIBATA nor MATSUKAWA provide any apparent reason for one of ordinary skill in the art to add licochalcone A to a composition according to EGGERT (or KORTE).

In this regard, it is pointed out that as correctly observed by the Examiner the compositions of KORTE and in particular, the lignans contained therein are intended for treating signs of dermatological aging, both photoaging and intrinsic aging, including skin wrinkles such as fine wrinkling in the area or "crows feet" or fine wrinkles around the mouth area, irregular pigmentation, sallowness, loss of skin resilience and elasticity". The compositions of EGGERS are cosmetic anti-aging compositions which contain an effective quantity of plant extracts of the genus *Arctium*.

SHIBATA on the other hand describes that licochalcone A shows an inhibitory effect on mouse ear edema induced by arachidonic acid (AA), which according to the paragraph under the

heading "Discussion" on page 224 of SHIBATA is an acute skin inflammation model. This edema is caused by an increased production of endogenous leukotrienes and prostaglandins and is suppressed by compounds that inhibit 5-lipoxygenase activity, but not by NSAIDs or cyclooxygenase inhibitors. In view thereof, the authors of SHIBATA propose that the inhibition by licochalcone A on AA-induced ear edema is elicited by the suppression of the synthesis of leukotrienes at the inflammation site. In other words, according to SHIBATA licochalcone A suppressed a specific type of inflammation, i.e., inflammation caused by an increased production of endogenous leukotrienes and prostaglandins.

Applicants point out that the Examiner has not provided any evidence which would support an allegation that skin aging is accompanied by inflammation, let alone has shown that skin aging is accompanied by inflammation which is caused by an increased production of endogenous leukotrienes at the inflammation site. In view thereof, it is not seen that the Examiner has sufficiently explained why it would allegedly have been obvious to one of ordinary skill in the art to add licochalcone A to any of the cosmetic anti-aging compositions of EGGERS or KORTE.

Regarding MATSUKAWA Applicants point out that the essential components of the compositions disclosed therein are tyrosinase inhibiting agents and in particular, solvent extracts from at least one of Gardenia, Sophora and Rosa (see, e.g., abstract). According to col. 1, lines 9-11 of MATSUKAWA these tyrosinase inhibiting agents may be used for improving the skin color. Further, according to col. 2, lines 53-61 of MATSUKAWA, "[w]hen the tyrosinase-inhibiting agent of the present invention is used in cosmetics, it may be used in combination with other appropriate agents such as physiologically active agents which are generally used as

components of cosmetics, for example astringents, antimicrobial agents and disinfectants, whitening agents, ultraviolet light absorbing agents, moisturizing agents, cell activating agents, anti-inflammatory and anti-allergy agents, anti-oxidant and activated oxygen removing agents.” Emphasis added. Further, according to col. 3, lines 11-18 of MATSUKAWA examples of whitening agents which may be used are “[a]scorbic acid and its derivatives, sulfur, kojic acid and its derivatives, glucosamine and its derivatives, glutathione, Arnica extract, Scutellaria root extract, Morus extract, Bupleurum extract, Coix extract, Aesculus extract, oil-soluble Glycyrrhizae extract (Glycyrrhizae hydrophobic flavones, glabridin, glabrene, licochalcone A) and the like.” Emphasis added.

Applicants submit that in view of the foregoing it is only with hindsight that one can conclude that MATSUKAWA renders it obvious to one of ordinary skill in the art to add licochalcone A to any of the cosmetic anti-aging compositions of EGGERS or KORTE. It is not even clear from the disclosure of MATSUKAWA if licochalcone A itself has any skin whitening effect or is merely one of several components of a composition (oil-soluble Glycyrrhizae extract) that has a skin whitening effect.

At any rate, the Examiner has not even shown that one of ordinary skill in the art would have an apparent reason to add a skin whitening agent to the compositions of EGGERS or KORTE.

Further, even if such a reason existed it has to be taken into account that according to e.g., col. 1, lines 31-38 and the Examples of MATSUKAWA the essential components of the compositions disclosed therein, i.e., the tyrosinase inhibiting agents themselves, have a skin whitening effect (inhibiting the production of melanin) and would thus be the apparent choice as

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whitening agents if one of ordinary skill in the art seeking to improve/modify the compositions of EGGERS or KORTE were to consider adding a skin whitening agent to the compositions disclosed therein at all.

Applicants submit that for at least the foregoing reasons, the Examiner has failed to establish a *prima facie* case of obviousness of the subject matter of any of the instant claims over any combination of KORTE, EGGERS, SHIBATA and MATSUKAWA, which warrants a reversal of the present rejection.

**CONCLUSION**

In view of the foregoing, it is believed that all claims of record are in condition for allowance. Accordingly, an early issuance of the Notices of Allowance and Allowability is again respectfully solicited. If any issues yet remain which can be resolved by a telephone conference, the Examiner is respectfully invited to contact the undersigned at the telephone number below.

In this regard, Applicants respectfully request that dependent claim 31 be rejoined in that it depends from an allowable base claim (in contrast to what is stated in the Office Action Summary, claim 31 is still pending in this application, i.e., has never been cancelled).

Respectfully submitted,  
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